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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/822,748	04/13/2004	Jin Woong Kim	2832-0178PUS1	4588
2292 7590 10/31/2007 BIRCH STEWART KOLASCH & BIRCH PO BOX 747 FALLS CHURCH, VA 22040-0747			EXAMINER BLAN, NICOLE R	
			ART UNIT 1792	PAPER NUMBER
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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

mailroom@bskb.com

Office Action Summary

Application No.

10/822,748

Applicant(s)

KIM ET AL.

Examiner

Nicole Blan

Art Unit

1792

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 20 August 2007.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-15 and 21-34 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-15 and 21-34 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date 08162007.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____.
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: _____.

DETAILED ACTION

1. The amendments to the claims filed on August 20, 2007, the cancellation of claims 16-20, and the addition of claims 21-34 have been acknowledged.
2. The Examiner is withdrawing the objection to the specification as it was made in error.

Claim Rejections - 35 USC § 102

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

4. Claims 1, 7-10, 11-15, and 21-34 are rejected under 35 U.S.C. 102(b) as being anticipated by Tanigawa et al. (U.S. Patent 5,887,456, hereafter '456).

Claim 1: A laundry machine [abstract] comprising: a cabinet [(1), Fig. 1, col. 8, lines 37-39]; a drum [(3), Fig. 1, col. 8, line 40] mounted in the cabinet; a mist generating device adapted to convert water to mist, whereby the water is supplied as a mist into the drum [(57 and 59), Fig. 7, col. 11, lines 15-19]; and a mist transporting conduit having an inlet [(57), Fig. 7] and an outlet [(59), Fig. 7], the inlet being connected to the mist generating device and the outlet arranged to deliver mist to the drum [col. 11, lines 15-19].

Claim 7: The laundry machine according to claim 1, further comprising a diffusion nozzle at the outlet of the mist transporting conduit [(59), Fig. 7, col. 11, lines 15-19].

Claim 8: The laundry machine according to claim 1, further comprising: a steam generating device [see Fig. 7, starting at 61b and continuing following the path to B then 41 to 44 and out into the drum through 45] installed at the mist transporting conduit, and adapted to heat

Art Unit: 1792

the mist emerging from the mist generating device [heats via heater (44), col. 11, lines 30-32], thereby changing the mist into steam, and supplying the steam into the drum [(47), Fig. 7, col. 11, lines 32-34] [col. 11, 20-34]. The steam generator described above converts the mist into steam because air, which contains water vapor, enters the steam generator from the drum, and as it is heated the remaining water vapor is converted into steam. The steam generator outlet is at the same place where the outlet to the mist generator is and causes the mist exiting the nozzle (59) to evaporate.

Claim 9: The laundry machine according to claim 8, wherein the steam generating device comprises: a container [(47), Fig. 7, col. 11, lines 32-34] arranged at the mist transporting conduit, and adapted to allow the mist emerging from the mist generating device to pass there through [the mist passes through the drum and as it collects, it is recirculated via (61a) to (59), see Fig. 7]; and a heater adapted to heat the mist passing through the container [(44), col. 11, lines 30-32].

Claim 10: The laundry machine according to claim 9, wherein the steam generating device further comprises: temperature sensing means adapted to measure an internal temperature of the container [(8 and 10), Fig. 1, col. 8, lines 47-50].

Claim 11: A laundry machine [abstract] comprising: a cabinet [(1), Fig. 1, col. 8, lines 37-39]; a tub located in the cabinet, and adapted to contain water therein [(2), Fig. 1, col. 8, lines 40-42]; a drum rotatably mount in the tub [(3), Fig. 1, col. 8, lines 40-42]; a mist generating device adapted to convert water to mist [(57 and 59), Fig. 7, col. 11, lines 15-19]; and a diffusion nozzle adapted to spray the mist into the drum (59), Fig. 7, col. 11, lines 15-19].

Art Unit: 1792

Claim 12: The laundry machine according to claim 11, wherein the sprayed mist is directed from the top and front end of the drum toward the bottom and rear end of the drum [see Fig. 7, follow arrows exiting nozzle (59) that show the mist being directed from the top and front end of the drum toward the bottom and rear end of the drum].

Claim 13: The laundry machine according to claim 11, further comprising: a circulation line [(61a to 59), Fig. 7, col. 11, lines 11-19] connected between a portion of the tub and another portion of the tub [at the top of the tub is 59]; and a pump [(57), Fig. 7, col.10, line 63] installed at the circulation line, and adapted to forcibly feed water through the circulation line to circulate the water through the tub [col. 11, lines 15-19].

Claim 14: The laundry machine according to claim 13, wherein the mist generating device is provided at the circulation line, and the diffusion nozzle is provided at an outlet end of the circulation line [(59), Fig. 7, col. 11, lines 11-19].

Claim 15: The laundry machine according to claim 14, further comprising a gasket [(46), Fig. 7, col. 10, line 59] fitted around an access opening of the tub [col. 11, lines 4-7], and wherein the outlet end of the circulation line [(59), Fig. 7, col. 10, line 64] is extended through a top portion of the gasket [see Fig. 7].

Claim 21: The laundry machine according to claim 1, further comprising a water transporting conduit [(61a to 59), Fig. 7, col. 11, lines 11-19] having an inlet and an outlet, the inlet being adapted to receive water from the drum, and the outlet being connected to the mist generating device [at the top of the tub is 59].

Claim 22: The laundry machine according to claim 21, further comprising a pump arranged at the water-transporting conduit [(57), Fig. 7, col.10, line 63].

Claim 23: The laundry machine according to claim 1, further comprising a water-supply unit configured to supply water into the drum [(21), Fig. 2, col. 9, lines 1-4].

Claim 24: The laundry machine according to claim 1, wherein the laundry machine is a washing machine [abstract].

Claim 25: The laundry machine according to claim 1, further comprising a water-supply unit configured to supply water into the tub [(21), Fig. 2, col. 9, lines 1-4].

Claim 26: A laundry machine [abstract] comprising: a cabinet [(1), Fig. 1, col. 8, lines 37-39]; a tub located in the cabinet, and adapted to contain water therein [(2), Fig. 1, col. 8, lines 40-42]; a drum rotatably mounted in the tub [(3), Fig. 1, col. 8, lines 40-42]; a mist generating device adapted to convert water into mist [(57 and 59), Fig. 7, col. 11, lines 15-19]; and a steam generating device adapted to heat the water to change the water into steam [follow the path of B in Fig. 7, col. 11, lines 20-34]. The steam generator converts the mist into steam because air, which contains water vapor, enters the steam generator from the drum, and as it is heated the remaining water vapor is converted into steam. The steam generator outlet is at the same place where the outlet to the mist generator is and causes the mist exiting the nozzle (59) to evaporate.

Claim 27: The laundry machine according to claim 26, wherein the steam is directed from the top and front end of the drum toward the bottom and rear end of the drum [see Fig. 7, follow arrows exiting nozzle (59) that show the mist being directed from the top and front end of the drum toward the bottom and rear end of the drum].

Claim 28: The laundry machine according to claim 26, further comprising: a circulation line [(61a to 59), Fig. 7, col. 11, lines 11-19] connected between a portion of the tub

Art Unit: 1792

and another portion of the tub [at the top of the tub is 59]; and a pump installed at the circulation line [(57), Fig. 7, col.10, line 63], and adapted to forcibly feed water through the circulation line to circulate the water through the tub [col. 11, lines 15-19].

Claim 29: The laundry machine according to claim 28, wherein the mist generating device and the steam generating device are provided at the circulation line. The steam generating device's outlet is at the same spot as the outlet from the mist generating device; therefore, they are both at the circulation line.

Claim 30: The laundry machine according to claim 29, further comprising a gasket [(46), Fig. 7, col. 10, line 59] fitted around an access opening of the tub [col. 11, lines 4-7], and wherein the outlet end of the circulation line [(59), Fig. 7, col. 10, line 64] is extended through a top portion of the gasket [see Fig. 7].

Claims 31-32: The steam generator converts the mist into steam because air, which contains water vapor, enters the steam generator from the drum, and as it is heated the remaining water vapor is converted into steam. The steam generator outlet is at the same place where the outlet to the mist generator is and causes the mist exiting the nozzle (59) to evaporate.

Claim 33: The laundry machine according to claim 26, further comprising a diffusion nozzle configured to spray the mist or the steam [(59), Fig. 7, col. 11, lines 15-19].

Claim 34: The laundry machine according to claim 26, further comprising a water-supply unit configured to supply water into the tub [(21), Fig. 2, col. 9, lines 1-4].

Claim Rejections - 35 USC § 103

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

Art Unit: 1792

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

6. The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35

U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

7. Claim 2 is rejected under 35 U.S.C. 103(a) as being unpatentable over '456 as applied to claim 1 above, and further in view of Muhr (U.S. Patent 6,117,219, hereafter '219).

Claim 2: '456 teaches the limitations of claim 1 above. They do not explicitly teach an atomizing means comprising: a case, diffusion means, and a blowing fan in order to define a flow of passage and circulation for the atomized water. However, '219 teaches atomizing means comprising a case [(1), Fig. 1, pg. 2, col. 4, line 1], diffusion means [(11), Fig. 1, col. 4, lines 19-26], and a blowing fan [(15), Fig. 1, col. 4, line 33] in order to provide for circulation of the atomized water. The selection of something based on its known suitability for its intended use has been held to support *prima facie* cases of obviousness. Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to have used the atomizer of '219 as the particular atomizer of '456 with a reasonable expectation of success because '219 teaches a suitable atomizing means.

8. Claims 3-4, and 6 are rejected under 35 U.S.C. 103(a) as being unpatentable over '456 and '219, and further in view of Kwok (U.S. Patent 4,684,064, hereafter '064).

Art Unit: 1792

Claim 3: '456 and '219 teach the limitations of claim 2 above. They do not teach a diffusion means containing at least one centrifugal plate to be rotated about an axis passing through a center by a driving force or a diffusion net arranged around the centrifugal plate in order to diffuse wash water radially from the plate in an atomized state. The Examiner takes Official Notice that it is common knowledge to one of ordinary skill in the art of providing atomized fluids that a centrifugal atomizer would be used in order to radially displace the water and that a mesh screen would prevent the water droplets from merging into larger globules. See, for example, '064, that teaches a diffusion means by providing a diffusion net [(30), Fig. 2, col. 4, lines 1] that is arranged around the centrifugal plate, and adapted to diffuse wash water radially projected from the centrifugal plate in an atomized state [col. 4, lines 1 – 34] and at least one centrifugal plate [(16), Fig. 2] adapted to be rotated about an axis passing through a center thereof by a driving force [(11), Fig. 2] [col. 4, lines 3 – 17] in order to prevent the droplets from merging into large globules. It would have been obvious to one of ordinary skill in the art at the time the invention was made to use a centrifugal atomizer in order to prevent the smaller water droplets from merging into larger globules.

Claim 4: '456, '219, and '064 teach the limitations of claim 3 above. In addition, '064 teaches that at least one centrifugal plate [(14) and (16) fastened together with a pin (17), Fig. 1] comprises a plurality of centrifugal plates [(16 – inner plate) and (14 – outer plate)] axially spaced apart from one another [see spaces located above 24a and 34b] [Fig. 1, col. 4, lines 1 – 34].

Claim 6: '456 teaches the limitations of claim 1 above, '219 renders the use of a case and blowing fan obvious for the reasons applied to claim 2 above. '219 further teaches a driving

Art Unit: 1792

means adapted to rotate the blowing fan [(17), Fig. 1, col. 4, lines 36-42]. '064 renders the use of a centrifugal plate and diffusion net obvious for the reasons applied to claim 3 above. '064 further teaches a driving means adapted to rotate the centrifugal plate [(11), Fig. 2] [col. 4, lines 3 – 17].

9. Claim 5 is rejected under 35 U.S.C. 103(a) as being unpatentable over '456, '219, and '064 as applied to claim 3 above, and further in view of Gafner (U.S. Patent 6,183,175 B1, hereafter '175).

Claim 5: '456, '219, and '064 teach the limitations of claim 3 above. They do not teach a spray drum type washing machine wherein the centrifugal plate and the blowing fan are rotated by a dual-shaft motor adapted to generate the driving force. The Examiner takes Official Notice that it is common knowledge to one of ordinary skill in the art of rotary devices that a dual-shaft motor can be used to rotate two objects such as the centrifugal plates and the fan of the application. See, for example, '175, which teaches that electric motors with concentric shafts are suitable driving means and that a dual-shaft motor contains two concentric drive shafts. These drive shafts can be represented by the coupling of two electric motors seated one behind the other as show in Figure 6 of '175 [col. 2, lines 19 – 30] to rotate two separate devices. It would have been obvious to one of ordinary skill in the art at the time the invention was made to use a dual-shaft motor as the driving force to rotate the centrifugal plate and the blowing fan because it is a suitable tool for rotating two drive shafts.

Response to Arguments

10. Applicant's arguments filed August 20, 2007 have been fully considered but they are not persuasive.

In response to applicant's argument that the nozzle cannot be the "mist generating device", a recitation of the intended use of the claimed invention must result in a structural difference between the claimed invention and the prior art in order to patentably distinguish the claimed invention from the prior art. If the prior art structure is capable of performing the intended use, then it meets the claim.

Applicants' argument that atomizing means and diffusion nozzle are not the same is unsupported by evidence. Nothing in the language of the claims prevents the atomizing means and the diffusion nozzle from being identical or one being a part of the other.

Turning to the rejection(s) of the claims under 35 U.S.C. § 102, it is noted that the terminology in a pending application's claims is to be given its broadest reasonable interpretation (*In re Zletz*, 893 F.2d 319, 321, 13 USPQ2d 1320, 1322 (Fed. Cir. 1989)) and limitations from a pending application's specification will not be read into the claims (*Sjolund v. Musland*, 847 F.2d 1573, 1581-82, 6 USPQ2d 2020, 2027 (Fed. Cir. 1988)). A prior art reference anticipates the subject matter of a claim when that reference discloses each and every element set forth in the claim (*In re Paulsen*, 30 F.3d 1475, 1478-79, 31 USPQ2d 1671, 1673 (Fed. Cir. 1994) and *In re Spada*, 911 F.2d 705, 708, 15 USPQ2d 1655, 1657 (Fed. Cir. 1990)); however, the law of anticipation does not require that the reference teach what Applicant is claiming, but only that the claims "read on" something disclosed in the reference. *Kalman v. Kimberly-Clark Corp.*, 713 F.2d 760, 772, 218 USPQ 781, 789 (Fed. Cir. 1983), cert. denied, 465 U.S. 1026 (1984) (and overruled in part on another issue), *SRI Intel v. Matsushita Elec. Corp. Of Am.*, 775 F.2d 1107, 1118, 227 USPQ 577, 583 (Fed. Cir. 1985). Also, a reference anticipates a claim if it discloses the claimed invention such that a skilled artisan could take its teachings in combination with his

Art Unit: 1792

or her own knowledge of the particular art and be in possession of the invention. See *In re Graves*, 69 F.3d 1147, 1152, 36 USPQ2d 1697, 1701 (Fed. Cir. 1995), cert. denied, 116 S.Ct. 1362 (1996), quoting from *In re LeGrice*, 301 F.2d 929, 936, 133 USPQ 365, 372 (CCPA 1962).

In response to Applicant's argument, 37 CFR 1.111(b) states, "A general allegation that the claims define a patentable invention without specifically pointing out how the language of the claims patentably distinguishes them from the references does not comply with the requirements of this section." Applicant has failed to specifically point out how the language of the claims patentably distinguishes them from the reference; for example, Applicant has not explained why Tanigawa's nozzle does not provide a mist.

The Examiner has given official notice that it is common knowledge to one of ordinary skill in the art of providing atomized fluids that a centrifugal atomizer would be used in order to radially displace the water and that a mesh screen would prevent the water droplets from merging into larger globules and that a dual-shaft motor can be used to rotate two objects such as the centrifugal plates and the fan, as referenced by '064 and '175. Applicant has not timely challenged the official notice, and therefore noticed fact is taken as admitted prior art. Further, such has been demonstrated by the references already of record in the case. See, in particular, those cited in the rejection mailed May 18, 2007. See MPEP 2144.03C.

Conclusion

11. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Hahn et al. (U.S. Patent 7,047,666; DE 102 60 156 A1; EP 1 431 443 A1) and Roseen (WO 01/11134).

Art Unit: 1792

12. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Nicole Blan whose telephone number is 571-270-1838. The examiner can normally be reached on Monday - Thursday 8-5 and alternating Fridays 8-4.


If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Michael Cleveland can be reached on 571-272-1418. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would

Art Unit: 1792

like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

NRB



MICHAEL B. CLEVELAND
SUPERVISORY PATENT EXAMINER